

the six stamens:—"Stamina 3 longiora et 3 alterna breviora" (Lois. Flora Gallica).

But there also exists at the Glénans a third form much more rare than the preceding—a form with the andrœcium triandrous, in consequence of the abortion of the three stamens of the inner row. In certain dolichostylate flowers we notice that the three inner stamens, hidden at the bottom of the tube, are nearly sessile upon the perianth; in others the anthers become completely aborted and the flower becomes triandrous.

*Narcissus reflexus*, Lois., therefore presents, at the Glénans, three remarkable forms:—(1) a form with a long style and with shorter stamens (dolichostylate form); (2) a form with a short style and with longer stamens (brachystylate form); (3) a triandrous form, produced by the abortion of the three inner stamens. This *Narcissus* with a triandrous andrœcium directly connects the Amaryllidæ with the Irideæ, which are only Amaryllidæ with *three extrorse stamens*. But by its *triandrous andrœcium and its introrse stamens* the *Narcissus reflexus* still more directly unites the Amaryllidæ with the Hæmodoracæ through certain genera which, like *Dilotris*, *Lachnanthes*, and *Phlebocarya*, possess three introrse stamens and a perfectly inferior ovary.—*Comptes Rendus*, June 30, 1884, p. 1600.

*Anatomy of Epeïra.* By M. VLADIMIR SCHIMKEWITSCH.

M. Schimkewitsch has published, in the 'Annales des Sciences Naturelles,' a most important paper, accompanied by eight plates, upon the anatomy of *Epeïra*. The conclusions resulting from his investigations he sums up as follows:—

1. It is possible to establish the homology which exists between the appendages and the various parts of the body of the Arachnida and those of the other Arthropoda (Myriopoda and Insecta, Crustacea and Limulidæ).

2. The Arachnida, placed between the Tracheata and the Limulidæ on the one hand, and the Crustacea on the other, are destitute of antennæ.

3. Their mode of development, as well as the structure of their organs of digestion, respiration, and vision, approximate them to the Myriopoda and the larvæ of insects.

4. On the contrary, by their circulatory apparatus and their muscular system, the higher Arachnida approach the Limulidæ; but this resemblance may be explained by the identity that exists in the general configuration of the body in these two forms; for the Limulidæ, according to their evolution (Nauplius-stage and Trilobite-stage), and according to the constitution of the respiratory apparatus, are true Crustacea destitute of antennæ.

5. The Scorpionidæ represent a form more ancient than the Araneidæ.

6. The Tetrapneumonous Araneidæ present more ancient forms than the Dipneumona.

7. The appendages of the Pycnogonidæ may be compared with those of the Arachnida, and the Pycnogonidæ resemble the Spiders in the structure of their generative and digestive organs.—*Annales des Sciences Naturelles, Zoologie, sér. vi. tome xvii.*

*On the Physiology of a Green Planarian (Convoluta Schultzii).*

By M. A. BARTHÉLÉMY.

*Convoluta Schultzii* is a singular animal, of a nature to excite the interest of those naturalists who pay attention to the function of chlorophyll. It is not one of those creatures of doubtful position and, so to speak, intermediate between the two kingdoms, but a comparatively high organism, in which the association with chlorophyll elements has produced interesting physiological peculiarities. By the extreme kindness of M. Lacaze-Duthiers I have been enabled to study this interesting creature, which lives and develops in abundance at Roscoff. Its anatomy, and especially its embryogeny, must be the subject of a special investigation; I shall content myself in this note with speaking of its physiology.

I shall only state that this *Convoluta* presents a ciliated cuticle, a muscular layer giving origin to longitudinal bands, and a central parenchyma replacing the digestive tube. There is neither mouth nor œsophagus, and still less an anus. This construction resembles that of the Infusoria, especially of *Opalina*.

As regards the chlorophyll element, it is represented by cells with greenish-yellow contents, and presenting a nucleus which is brought into view by attacking the chlorophyll with ether and then treating with potash. These elements are free upon the surface of the central parenchyma, and when the latter escapes, in consequence of an accidental rupture, it is not uncommon to see one of these cells also escape surrounded by protoplasm. It seemed to me that these chlorophyll-cells multiplied by division of the nucleus.

I must not forget to mention the existence (which, however, is not constant) of fusiform bacilli inserted into the cuticle by a sort of nail-head, and often collected, to the number of four, at the posterior part of the animal; and, lastly, of bundles of very fine, granular, parasitic Nematodes, much attenuated at the extremity, which live and move for some time when detached from the animal; but I do not know whether it is to these that we must refer the nematocysts with protractile filaments that Gräff has described in *Stenostomum Sieboldii*.

When held between the fingers, the animal diffuses a phosphorous